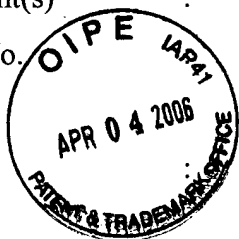


04-05-06

PATENT 1617  
674543-2001.6  
TW

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s) : Walker et al.  
Serial No. : 10/080,876  
Filed : February 22, 2002  
For : REGULATION OF INTRACELLULAR  
GLUCOCORTICOID CONCENTRATION  
Examiner : Shobha Kantamneni  
Group Art Unit : 1617



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(Signature of person mailing paper or fee)

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The Examiner's attention is respectfully directed to the following documents set forth in the accompanying form PTO-1449, which is provided in duplicate. A copy of the cited documents is enclosed. Applicants request that the Examiner consider and make of record the documents cited herein and that the Examiner return an initialed copy of the Form PTO-1449 to the Applicant's attorneys.

This Information Disclosure Statement is not a representation that the documents cited herein is considered most pertinent, or that a search has been undertaken or that the cited documents are indeed prior art. The Examiner is invited to undertake an independent search.

04/06/2006 WAFSAW1 00000083 10080876

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180.00 OP

As this Information Disclosure Statement is being submitted after receipt of a non-final Office Action, a check in the amount \$180.00 is enclosed in payment of the fee for consideration and entry of this document as set forth in 37 C.F.R. 1.17(p).

As these documents present no new issues to patentability, it is respectfully requested that the Examiner considers and make of record the documents cited herewith and that a copy of Form PTO-1449 be initialed by the Examiner and returned to the undersigned.

Respectfully submitted,  
FROMMER LAWRENCE & HAUG LLP

By: Thomas J. Kowalski by Angela M. Collison  
Thomas J. Kowalski  
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Based on Form PTO-1449 (3/90)		ATTY. DOCKET NO. <b>674543-2001.6</b>		SERIAL NO. <b>10/080,876</b>	
LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary)					
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FILING DATE <b>February 22, 2002</b>				GROUP <b>1617</b>	
U.S. PATENT DOCUMENTS					
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS
	AA	5,128,150	7/7/1992	Edward Shanbrom	

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	AB	97/07789	03/06/1997	WIPO				

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

AC	ACTH; Adrenocortical Steroids: Inhibitors Of Biosynthesis, Chapter 63, p. 1463-1473
AD	International Classification Of Diseases - 10 (1992); pgs. 332-337
AE	Endocrinology and Metabolism, Part Thirteen, Chapter 335, p. 1960-1965
AF	Anil K. Agarwala, et al., Cloning And Expression Of Rat cDNA Encoding Corticosteroid 11 $\beta$ -Dehydrogenase, Journal of Biological Chemistry (1989), Vol. 364, No. 32, p. 18939-18943
AG	Olusola A. Ajilore, et al., In Vivo Characterization Of 11 $\beta$ -Hydroxysteroid Dehydrogenase In Rat Hippocampus Using Glucocorticoid Neuroendangerment As an Endpoint, Neuroendocrinology (1999): 69, p. 138-144
AH	Robert C. Andrews, et al., Effects Of the 11 $\beta$ -Hydroxysteroid Dehydrogenase Inhibitor Carbenoxolone On Insulin Sensitivity In Men With Type 2 Diabetes, Journal of Clinical Endocrinology & Metabolism (2003): 88, (1), p. 285-291
AI	J.A. Attea, et al., Early Morning Hyperglycaemia "Dawn Phenomenon" In Non-Insulin Dependent Diabetes Mellitus (NIDDM): Effects Of Cortisol Suppression By Metyrapone, Diabetes Research (1990): 14, p. 181-185
AJ	C.G. Beardwell, et al., Prolonged Remission In Florid Cushing's Syndrome Following Metyrapone Treatment, Clinical Endocrinology (1981): 14, p. 485-492
AK	Andrew S. Brem, et al., Bidirectional Activity Of 11 $\beta$ -Hydroxysteroid Dehydrogenase In Vascular Smooth Muscle Cells, Steroids (1995): 60, p. 406-410
AL	C. Calle, et al., Decreased Insulin Binding And Antilipolytic Response In Adipocytes From Patients With Cushing's Syndrome, Bioscience Reports (1987) Vol. 7, No. 9, p. 713-718
AM	C. Calle, et al., Binding And Antilipolytic Action Of Insulin In Isolated Adipocytes From Cortisol-Treated Rats, Revista Espanola De Fisiologia (1988) Vol. 44, No. 3, p. 309-314
AN	S. Diederich, et al., In The Search For Specific Inhibitors Of Human 11 $\beta$ -Hydroxysteroid-Dehydrogenases (11 $\beta$ -HSDs): Chenodeoxycholic Acid Selectively Inhibits 11 $\beta$ -HSD-I, European Journal Of Endocrinology (2000) Vol. 142, p. 200-207
AO	J. Donckier, et al., Successful control Of Cushing's disease In the Elderly With Long Term Metyrapone, Postgraduate Medical Journal (1986) Vol. 62, p. 727-730
AP	D. Englehardt, et al., Therapy Of Cushing's Syndrome With Steroid Biosynthesis Inhibitors, J. Steroid Biochem. Molec. Biol. (1994) Vol. 49, No. 4-6, p. 261-267
AQ	J. Fain, et al., Effects Of Glucocorticoids On Metabolism Of Adipose Tissue In Vitro, The Journal Of Biological Chemistry (1963) Vol. 238, No. 1, p. 54-58
AR	Pietro Garen, et al., Antiabsence Effects Of Carbenoxolone In Two Generic Animal Models Of Absence Epilepsy (WAG/Rij rats and lh/lh mice), Neuropharmacology (2005) Vol. 49, p. 551-563
AS	A. Golay, et al., Evolution From Obesity To Diabetes, Diabete & Metabolisme (Paris) (1994): 20, p. 3-14
AT	J.A. Gomez-Capilla, et al., Effect Of Insulin And Carbenoxolone On Adrenaline Stimulated Lipolysis In Human Lipoma, Horm. Metab. Res. (1990): 22, p. 551-552
AU	J.A. Gomez-Capilla, et al., Effect Of Carbenoxolone On Glucose Metabolism In Rat Adipose Tissue (1988) Vol. 37, No. 7, p. 1299-1301
AV	Elise P. Gomez-Sanchez, et al., Central Hypertensinogenic Effects Of Glycyrrhizic Acid And Carbenoxolone, Am. J. Physiol (1992): 263, (Endocrinol. Metab. 26) p. E1125-E1130
AW	Paul Grinberg, et al., Effect Of Metyrapone On Insulin, Cortisol, And Glucose Tolerance Test Responses In Diabetes, New York State Journal Of Medicine (1970) p. 2341-2343
AX	Muhammad M. Hammami, et al., Regulation Of 11 $\beta$ -Hydroxysteroid Dehydrogenase Activity In Human Skin Fibroblasts: Enzymatic Modulation Of Glucocorticoid Action, Journal of Clinical Endocrinology and Metabolism (1991) Vol. 73, No. 2, p. 326-334

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## U.S. PATENT DOCUMENTS

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## FOREIGN PATENT DOCUMENTS

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							YES	NO

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

AY	H. Hauner, et al., Glucocorticoids And Insulin Promote The Differentiation Of Human Adipocyte Precursor Cells Into Fat Cells, Journal of Clinical Endocrinology and Metabolism (1987), Vol. 64, No. 4, p. 832-835
AZ	A. Holmang, et al., The Effects Of Cortisol On Insulin Sensitivity In Muscle, Acta, Physiol Scand (1992): 144, p. 425-431
BA	B. Jeanrenaud, et al., Studies On Rat Adipose Tissue In Vitro, Journal of Biological Chemistry (1960) Vol. 235, No. 8, p. 2217-2223
BB	W. J. Jeffcoate, et al., Metyrapone In Long-Term Management Of Cushing's Disease, British Medical Journal (1977): 2, p. 215-217
BC	P. H. Jellinck, et al., Differential Inhibition Of 11 $\beta$ -Hydroxysteroid Dehydrogenase By Carbenoxolone In Rat Brain Regions And Peripheral Tissues, J. Steroid Biochem. Molec. Biol. (1993) Vol. 46, No. 2, p. 209-213
BD	H. J. Karl, et al., In Vitro Transformation Of Cortisol By Human Adipose Tissue, Horm. Metab. Res. (1969):1, p. 95
BE	V. Lakshmi, et al., Regional Distribution Of 11 $\beta$ -Hydroxysteroid Dehydrogenase In Rat Brain, Endocrinology (1991) Vol. 128, No. 4, p. 1741-1748
BF	B. Lambert, et al., Effect of Carbenoxolone On Lipolysis In Rat Adipose Tissue, J. Pharm. Pharmac. (1977): 30, p. 301-303
BG	Joseph Levin, et al., Extraadrenal Effects Of Metyrapone In Man, Journal Of Clinical Endocrinology And Metabolism (1978) Vol. 47, No. 4, p. 845-849
BH	D. E.W. Livingstone, et al., Is 11 $\beta$ -Hydroxysteroid Dehydrogenase Type 1 A Therapeutic Target? Effects Of Carbenoxolone In Lean And Obese Zucker Rats, Journal Of Pharmacology And Experimental Therapeutics (2003) Vol. 305, No. 1, p. 167-172
BI	P. Loli, et al., Use of Ketoconazole In The Treatment Of Cushing's Syndrome, Journal Of Clinical Endocrinology And Metabolism (1986) Vol. 63, No. 6, p. 1365-1371
BJ	Susan C. Low, et al., Glucocorticoids Regulate Hippocampal 11 $\beta$ -Hydroxysteroid Dehydrogenase Activity And Gene Expression In Vivo In The Rat, Journal Of Neuroendocrinology (1994) Vol. 6, p. 285-290
BK	Per Marin, et al., Cortisol Secretion In Relation To Body Fat Distribution In Obese Premenopausal Women, Metabolism (1992) Vol. 41, No. 8, p. 882-886
BL	I. Mineu, et al., Insulinresistance: The Link Between Impaired Glucose Tolerance, Body Mass Index And Plasma Lipids, Rev. Roum. Med. Int. (1993) Vol. 31, No. 4, p. 237-243
BM	M. Moisan, et al., 11 $\beta$ -Hydroxysteroid Dehydrogenase Bioactivity And Messenger RNA Expression In Rat Forebrain: Localization In Hypothalamus, Hippocampus, And Cortex, Endocrinology (1990) Vol. 127, No. 3, p. 1450-1455
BN	C. Monder, et al., 11 $\beta$ -Hydroxysteroid Dehydrogenase, Vitamins and Hormones (1993) Vol. 47, p. 187-271
BO	T. Ohno, et al., Metyrapone-Induced Thermogenesis In Cold And Heat Acclimated Rats, Japanese Journal Of Physiology (1986): 36, p. 821-825
BQ	D. Orth, et al., Hyperfunction, The Adrenal Cortex, p. 536-562
BR	S. J. Quick, et al., Epithelial And Adipose Cells Isolated From mammary Glands Of Pregnant And Lactating Rats Differ In 11 $\beta$ -Hydroxysteroid Dehydrogenase Activity, J. Steroid Biochem. Molec. Biol. (1990) Vol. 37, No. 4, p. 529-534
BS	S. J. Quick, et al., 11 $\beta$ -Hydroxysteroid Dehydrogenase Activity In The Mammary Gland, J. Steroid Biochem. (1990) Vol. 35, No. 6, p. 623-625
BT	V. Rajan, et al., 11 $\beta$ -Hydroxysteroid Dehydrogenase In Cultured Hippocampal Cells Reactivates Inert 11-Dehydrocorticosterone, Potentiating Neurotoxicity, Journal Of Neuroscience (1996): 16, (1) p. 65-70
BU	V. Rajan, et al., Cloning, Sequencing And Tissue-Distribution Of Mouse 11 $\beta$ -Hydroxysteroid Dehydrogenase-1 cDNA, J. Steroid Biochem. Molec. Biol. (1995) Vol. 52, No. 2, p. 141-147

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## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

BV	P. W. Raven, et al., Extra-Adrenal Effects Of Metirapone Include Inhibition Of The 11-Oxoreductase Activity Of 11 $\beta$ -Hydroxysteroid Dehydrogenase: A Model For 11-HSD 1 Deficiency, Clinical Endocrinology (1995) Vol. 43, p. 634-644
BW	R. Sampath-Kumar, et al., Metirapone Is A Competitive Inhibitor Of 11 $\beta$ -Hydroxysteroid Dehydrogenase Type 1 Reductase, J. Steroid Biochem. Molec. Biol. (1997) Vol. 62, No. 23, p. 195-199
BX	Program Abstracts Philadelphia, Endo 2003, June 19-22, 2003, p. 101
BY	T. C. Sandeep, et al., Increased In Vivo Regeneration Of Cortisol In Adipose Tissue In Human Obesity And Effects Of The 11 $\beta$ -Hydroxysteroid Dehydrogenase Type 1 Inhibitor Carbenoxolone, Diabetes (2005) Vol. 54, p. 872-879
BZ	R. M. Sapolsky, et al., Prolonged Glucocorticoid Exposure Reduces Hippocampal Neuron Number: Implications For Aging, Journal Of Neuroscience (1985) Vol. 5, No. 5, p. 1222-1227
CA	R. M. Sapolsky, A Mechanism For glucocorticoid Toxicity In The hippocampus: Increased Neuronal Vulnerability To Metabolic Insults, Journal Of Neuroscience (1985) Vol. 5, No. 5, p. 1228-1232
CB	R. M. Sapolsky, Glucocorticoid Toxicity In The Hippocampus, Neuroendocrinology (1986) Vol. 43, p. 440-444
CC	D. S. Schade, et al., Modulation Of Basal Ketone Body Concentration By Cortisol In Diabetic Man, Journal Of Clinical Endocrinology And Metabolism (1978) Vol. 47, No. 3, p. 519-528
CD	J. R. Seckl, Glycyrhethinic Acid, An Inhibitor Of 11 $\beta$ -Hydroxysteroid Dehydrogenase, Alters Local Cerebral Glucose Utilization In Vivo, J. Steroid Biochem. Molec. Biol. (1991) Vol. 39, No. 5A, p. 777-779
CE	J. R. Seckl, 11 $\beta$ -Hydroxysteroid Dehydrogenase Isoforms And Their Implications For Blood Pressure Regulation, European Journal Of Clinical Investigation (1993) Vol. 23, p. 589-601
CF	N. Sonino, et al., Ketoconazole Treatment In Cushing's Syndrome: Experience In 34 Patients, Clinical Endocrinology (1991) Vol. 35, p. 347-352
CG	P.M. Stewart, et al., Mineralocorticoid Activity Of Carbenoxolone: Contrasting Effects Of Carbenoxolone And Liguorice On 11 $\beta$ -Hydroxysteroid Dehydrogenase Activity In Man, Clinical Science (1990) Vol. 78, p. 49-54
CH	P. M. Stewart, et al., The Cortisol-Cortisone Shuttle And Hypertension, J. Steroid Biochem. Molec. Biol. (1991) Vol. 40, No. 4-6, p. 501-509
CI	B. A. Stein, et al., Chemical Adrenalectomy Reduces Hippocampal Damage Induced By Kainic Acid, Brain Research (1988) Vol. 473, p. 175-180
CJ	A. Tabarin, et al., Use Of Ketoconazole In The Treatment Of Cushing's Disease And Ectopic ACTH Syndrome, Clinical Endocrinology (1991) Vol. 34, p. 63-69
CK	J. Thakore, et al., Cortisol Synthesis Inhibition: A New Treatment Strategy For The Clinical And Endocrine Manifestations Of Depression, Society Of Biological Psychiatry (1995) Vol. 37, p. 364-368
CL	M. Thorén, et al., Aminoglutethimide And Metirapone In The Management Of Cushing's Syndrome, Acta Endocrinologica (1985) Vol. 109, p. 451-457
CM	J. A. Verheist, et al., Short And Long-Term Responses To Metirapone In the Medical Management Of 91 Patients With Cushing's Syndrome, Clinical Endocrinology (1991) Vol. 35, p. 169-178
CN	S. M. Virtanen, et al., Dietary Factors In The Aetiology Of Diabetes, Ann. Med. (1994) Vol. 26, p. 469-478
CO	B. R. Walker, et al., Deficient Inactivation Of Cortisol By 11 $\beta$ -Hydroxysteroid Dehydrogenase In Essential Hypertension, Clinical Endocrinology (1993) Vol. 39, p. 221-227
CP	B. R. Walker, et al., Carbenoxolone Increases Hepatic Insulin Sensitivity In Man: A Novel Role For 11-Oxosteroid Reductase In Enhancing Glucocorticoid Receptor Activation, Journal Of Clinical Endocrinology And Metabolism (1995) Vol. 80, No. 11, p. 3155-3159
CQ	J. Weidenfeld, et al., In Vitro Metabolism Of Cortisol By Human Abdominal Adipose Tissue, J. Steroid Biochem. (1982) Vol. 17, p. 357-360

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